where

d = diameter of sampling conduit, cm(or in.)

Q = sampling rate, cm^3/sec (or $in.^3/sec$)

Sampling nozzles should be sized for isokinetic inlet velocity. Sampling lines should be vertical, where practicable, and should be as short as possible between the collector nozzle and counting instruments (some stack sampling instruments are located on the stack at the same level as the sampling point). Sample lines should be compatible with the constituents of the effluent stream (customarily stainless steel or copper in nuclear applications). They must be clean and smooth on the inside and should be detachable to permit occasional field cleaning. Oil and moisture on the inner surfaces of the sample lines will trap particles and give false readings. Cleaning by procedures that meet the requirements of ASTM A380[27] is recommended.

Sampling elements should be of the isokinetic type and should consist of multiple arrays of sensing points so that an accurate, representative sample is obtained for the measuring devices. Variable flow devices have been marketed to allow isokinetic sampling in streams in which duct velocities are changing.

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- Section FC, "HEPA Filters."
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- Section FE, "Type III Adsorber Cells."
- Section FF, "Adsorbent Media."
- Section FG, "Frames."
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